

200312863-1

10/690,177

REMARKS

This is a full and timely response to the non-final Official Action mailed June 10, 2005. Reconsideration of the application in light of the above amendments and the following remarks is respectfully requested.

By the forgoing amendment, the specification and claims 19 and 20 have been amended. Claims 1-12 have been withdrawn from consideration under a previous Restriction Requirement. Additionally, new claims 23-30 have been added. No original claims have been cancelled. Thus, claims 13-30 are currently pending for further action.

The amendments made to claim 19 are made merely to correct grammatical errors. Consequently, these amendments to claim 19 do not, and are not intended to, narrow or alter the scope of claim 19 in any degree.

Objection to Abstract:

The recent Office Action objected to the abstract of the application as not being within the range of 50 to 150 words. Accordingly, the abstract has been amended herein to more closely describe the elected and presently claimed subject matter and to meet the guidelines as to length. Therefore, following entry of this amendment, any objection to the abstract should be reconsidered and withdrawn.

Prior Art:

The sole prior art rejection made in the recent Office Action is a rejection of claims 13-22 as anticipated by U.S. Patent No. 5,492,266 to Hoebener et al. ("Hoebener"). For at least the following reasons, this rejection is respectfully traversed.

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Independent claim 13 recites:

A method of coupling circuit board assembly and electronic components, comprising:  
providing a circuit board, wherein said circuit board includes at least one component pad and a via extending through at least one layer of said circuit board;  
providing an electronic component;  
disposing a joining material mask on said via;  
forming a joining material pattern on said component pad, said joining material pattern including an out-gassing channel; and  
heating said circuit board assembly and said electronic component.  
(emphasis added).

In contrast, Hoebener fails to teach or suggest forming a joining material pattern "on said component pad" that includes "an out-gassing channel." Rather, as clearly shown in Fig. 9 of Hoebener, the Hoebener stencil produces a compressed ball of solder (27) over a component pad (2). This solid lump of solder (27) is never described by Hoebener as including an out-gassing channel. Moreover, the recent Office Action fails to cite any portion of Hoebener that teaches or even mentions the concept of an out-gassing channel in a pattern of joining material on a component pad as claimed.

"A claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. For at least this reason, the rejection of claim 13 and its dependent claims based on Hoebener should be reconsidered and withdrawn.

Similarly, independent claim 19 recites: "A method of coupling a circuit board assembly and electronic components with a stencil, said method comprising depositing joining material on said circuit board in a pattern that comprises an out-gassing channel." (emphasis added).

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As demonstrated above, the cited prior art of Hoebener does not teach or suggest a method of using a stencil to deposit joining material on a circuit board where the pattern comprises an out-gassing channel. No such teaching has been identified by the Office Action in Hoebener.

Again, "[a] claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. For at least this reason, the rejection of claim 19 and its dependent claims based on Hoebener should be reconsidered and withdrawn.

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**Conclusion:**

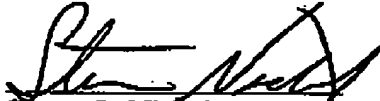
The newly added claims are thought to be patentable over the prior art of record for at least the same reasons given above with respect to the original independent claims.

Therefore, examination and allowance of the newly added claims is respectfully requested.

For the foregoing reasons, the present application is thought to be clearly in condition for allowance. Accordingly, favorable reconsideration of the application in light of these remarks is courteously solicited. If the Examiner has any comments or suggestions which could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the number listed below.

Respectfully submitted,

DATE: 26 August 2005

  
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